A novel function, douche mode, is built into the hand-held and wall-mounted showerheads for women's personal hygiene

References Cited [Referenced By]

U.S. Patent Documents

3921635	Nov. 1975	Gauthier	604/804
3968797	Jul., 1976	Packer et al.	604/215
3998390	Dec., 1976	Peterson et al.	239/394
4302186	Nov., 1981	Cammack et al.	433/80
5316216	May, 1994	Cammack et al.	239/71
5380300	Jan., 1995	Pritchard et al.	604/275
5476225	Dec., 1995	Chan	239/449
6589216	Jul., 2003	Abbott et al.	604/279
6626875	Sep., 2003	Arzonico	604/279

Other References

Douching – The National Women's Health Information Center, U.S. Department of Health and Human Services Office on Women's Health, November 2002.

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to showerheads and vaginal douche nozzles and, more particularly, to a showerhead providing a douche mode for women's personal hygiene through connecting a secret engagement means around a spray nozzle

nestled in the face plate of a hand-held or wall-mounted showerhead to our specially designed disposable vaginal douche nozzle.

2. Description of the Prior Art

Douching is a practice that is thought to have been around since ancient times. Reasons that women have given for using douches include to: rinse away blood after a menstrual period; clean the vagina after sex to avoid sexually transmitted diseases (STDs), wash away semen to prevent pregnancy; and reduce odors. According to a report from the National Women's Health Information Center, U.S. Department of Health and Human Services, douching is a common practice among women in the United States - 37% of American women between the ages of 15 to 44 douches regularly. Of these women, about half douche on a weekly basis. Although conventional vaginal douches may undesirably alter normal vaginal environments, douching has been found to benefit vaginal environments that are already undesirably altered or disturbed.

Vaginal Douching Device

Various douching devices have been developed for personal administration of a douche solution into the vagina. These devices are usually of a simple construction having a short stiff douche nozzle, sometimes curved along its length, for inserting along the vagina and a squeezable container for holding a quantity of douche solution and connectable to the nozzle. Manual squeezing of the container forces the solution to flow along the nozzle into the vagina. The terminal end of the douche nozzle is provided with a number of holes so that the solution is generally spray discharged. Users use household water or buy the douching solutions at drug and grocery stores. However, there are some obvious problems with these conventional douching devices. First, the commercial douching solutions may contain substances that cause irritation in some users and/or tend to alter the normal pH or chemical balance of the vaginal canal. Second, these douching solutions need advanced purchase and are costly if

users douche frequently and regularly. Third, even though the normal household water is used as a douching fluid only, the conventional vaginal douche is not convenient when users need an adequate douching. The reason for that is that a squeezable container holds only a small quantity of douche solution (generally 6 oz) and users may have to refill the container with water and repeat the douching steps several times, which is obviously a frustrated and inconvenient operation, in order to obtain a relatively good rinse. Another drawback associated with conventional douching is that when the solution is discharged into vagina by manual squeezing, the pressure of fluid stream is not well under control so that the fluid discharge is erratic and the rinse through the vaginal canal is uneven, which may result in a poor quality of douching. Therefore, it has been found that in general these conventional douching devices provide only a limited douching effect.

Although there have been many inventions related to a vaginal douche device that attempted to solve these aforementioned problems, none of the inventions in prior art have become sufficiently easy, convenient, comfortable, and visually appealing to become a popular product. Here are some examples: For irrigating and cleansing the vaginal canal, various forms of apparatus designed for attachment to a showerhead have been suggested as is apparent from U.S. Pat. Nos. 3,461,870; 3,512,525; 3,817,247; 3,847,150; 4,601,709; 4,911,704; 5,241,714; and 6,626,875. By attachment to a showerhead, users can easily adjust the temperature, volume, and pressure of the discharged fluid to the user's comfort and the fluid after use conveniently disappears into the shower drain. The common downside, however, of these inventions is the attachment between a showerhead and its water supply pipe that does not provide sufficient privacy or secrecy of douche apparatus and requires extra work for the installation of the attachment device. The attachment is also visually uncomfortable to some users due to the less natural look of the showerhead with a protruding attachment object around.

U.S. Patent 3,921,635 disclosed three forms of engagement for attaching a showerhead to a douche nozzle. In one form, the outer perimeter of the showerhead face has a douche attaching flange for engaging a douche nozzle that has a cup-shaped attaching means and several accessory parts involved. The douche nozzle in this design is unlikely disposable due to a number of parts and adaptors involved. It is thus less convenient due to the need of thorough cleaning after each use and appropriate storage for privacy. In another two forms, it discloses a projecting douche attaching structure in the center of the showerhead face. This protruding coupling means is visually uncomfortable to users due to less secret appearance of the coupling means and less natural look of the showerhead with a distinct protruding means on the showerhead face.

U.S. Patent 5,102,387 disclosed a transportable douche attachment which is adapted to be removably secured to a showerhead. This attachment comprises a nozzle, a cone having its reduced end attached to the nozzle and its enlarged end to engage the outer perimeter of the face of a showerhead, and a elongated ring of thin flexible material attached at one end of the enlarged end of the showerhead and adapted to be gathered behind the showerhead and held in place by a velcro strap. A conventional douche nozzle is secured to the opposite end of the cone to enable douching to occur. The design of this device, however, is only feasible to the hand-held showerhead. For those wall-mounted showerheads that are used commonly at home, hotels, and the like, this device would not be operable. In addition, users may have problems in operation because the cone materials need to be held in place by a strap, which is not convenient for consumers. Moreover, the cone, if not disposable, must be kept clean for repeated use, which is another drawback that causes inconvenience to the users. U.S. Patent 6,156,017 disclosed a cleaning device that needs two joints to get the device connected with showerhead water supply line, which is not practical and convenient to most douche users.

Showerheads

There are many showerheads which can deliver sprays in a plurality of different patterns. In general, there are two representative approaches to providing means for selecting between spray modes. One approach is to provide a face plate with a plurality of alternative spray heads formed therein which are sequentially placed in front of a water delivery passageway as the face plate is rotated. An example of such a showerhead is found in U.S. Pat. No.3,998,390. A few of the other U.S. Patents relating to this type of showerheads are U.S. Patent Numbers 4,043,511; 4,165,837; 4,221,338; 4,657,185; 4,903,897; 5,070,552; 5,215,258; and 5,385,532. Another approach is to form a face plate with all spray orifices located in concentric circular patterns. An internal device may be operated to direct the incoming water to any of the circular patterns. An example of such a showerhead is found in U.S. Pat. No.3,801,019. A few of the other U.S. Patents relating to this type of showerheads are U.S. Patent Numbers 3,958,756; 4,187,986; 4,190,207; 4,204,646; 4,303,201; 4,398,669; 4,588,130; 4,598,866; 5,172,866; 5,201,468; 5,316,216; 5,398,872; and 5,476,225. It is not a concern, however, to this invention for what mechanism is set forth in the prior art of showerheads providing means for spray mode selection. The present invention is about providing an engagement means around a spray nozzle nestled in the face plate of a hand-held or wall-mounted showerhead. This invention hence discloses a showerhead douche mode which can be easily built into the existing showerhead art where it is applicable and feasible to adopt this invention with minimum cost increase on manufacture for the great benefits of women's personal hygiene.

Vaginal Douche Nozzles

As stated earlier in the field of the invention, this invention also relates to vaginal douche nozzle. There are a few kinds of douche nozzles found from prior art. The U.S. Pat. No. 3,968,797 disclosed a douche nozzle attached to a liquid container. This nozzle does not address the concern on the pressure and

direction of fluid flow at apertures provided in the spaced-apart grooves on the nozzle body, which, however, is an important issue that must be taken into account in the present invention. Moreover, the base portion of the douche nozzle from U.S. Pat. No. 3,968,797 is specially designed for attaching the container instead of having a coupling engagement as described from our douche nozzle. U.S. Pat. No. 5,380,300 relates to a douche nozzle for use with a squeeze bottle filled with a liquid. This nozzle also does not address the pressure and direction of fluid flow at apertures provided in the spaced-apart grooves on the nozzle body. Due to the straight shaft of the nozzle body, when attaching to a hand-held showerhead, it can cause discomfort for user to hold the handle of the showerhead in order to obey the somewhat diagonally-upward insertion of douche nozzle into the vaginal canal. Also the fluid after use exiting vagina canal may fall on the face plate of the hand-held showerhead, which is unhygienic practice that can be avoided by using our angled or flexible douche nozzle from this invention. U.S. Pat. No. 6,626,875 discloses a device including a plurality of removable and disposable nozzles, where the apertures for discharging water from the douche nozzle are situated on the surface of the nozzle body. Since the vaginal canal is normally collapsed or contracted, it has a tendency to clamp down on a vaginal douche nozzle inserted therein. The apertures on the exterior surface of nozzle body may become "sealed" during use, which in turn brings about a poor quality of douching. Although some of prior art douche nozzles comprise grooves guiding the drainage of douche fluid downward towards vaginal opening, there is a concern whether or not the grooves provide enough drainage space between the apertures and vaginal wall when the douching fluid flow constantly in the case where the douche nozzle is connected with a showerhead. Our specially designed douche nozzle has taken this concern into account as well. There are still other patents related to the douche nozzles from prior art, such as, U.S. Pat. Nos. 4,167,186; 5,013,297; 5,695,481; 6,190,365; 6,235,008; and 6,589,216. However, none of the prior art douche nozzles can be adapted to the showerhead with douche mode presented here without further significant modifications.

To overcome the aforementioned disadvantages of all vaginal douching devices from prior art, this invention has disclosed a showerhead douching device that provides many advantages on simplicity, convenience, affordability, reliability, privacy, appearance, and comfort over any douching devices disclosed in prior art.

SUMMARY OF THE INVENTION

The art of a spray nozzle nestled in a showerhead face plate and surrounded by an annular recessed cylindrical wall can be found from many prior art, for example, in the U.S. Pat. Nos. 3,998,390; 4,043,511; 4,165,837; 4,221,338; 4,657,185; 4,903,897; 5,070,552; 5,215,258; and 5,385,532. This invention is to provide an engagement means around a spray nozzle nestled in the face plate of certain kinds of currently marketed hand-held and wall-mounted showerheads to allow a coupling structure in place for thread-fit or snap-fit attaching directly (hand-held showerhead) or indirectly (wall-mounted showerhead) through a flexible douche hose to our specially designed disposable vaginal douche nozzle. User can access the douche mode on the showerhead by selecting the spray mode of said spray nozzle where it has an engagement means attachable to said douche nozzle or douche hose. The spray pattern of said spray nozzle is not affected when said douche nozzle or douche hose is not attached. The douche mode of a showerhead is thereby built into a showerhead with a simple modification of current marketed showerhead art without any significant change on common appearance of the showerhead face. The manufacture cost for adding said engagement means around said spray nozzle nestled in a showerhead face plate is believed to be reasonably inexpensive. This new douche feature on a showerhead, however, will bring a great deal of health benefits, convenience, comfort and joy to women.

In accordance with this invention, effective vaginal cleaning may be accomplished by douching with only normal household water being used as the douching fluid. The use of water alone as the douching fluid ensures minimal

alteration of vaginal pH while rinsing out the vaginal canal. The faucet as the water source for showerhead has a built-in valve, operable via a knob or knobs, for selectively controlling water pressure, volume, and temperature of douching water flow supplied to the vaginal douche nozzle. A preferred pressure, volume, and temperature of the water flow from a nozzle are easily set by the user through operating the knob or knobs of the faucet controlling the water supply of the showerhead. The douching water enters and exits vaginal canal easily by using our specially designed douche nozzle attachable to a showerhead with said douche mode.

Referring back to the problems associated with the prior art vaginal douching devices discussed earlier, the advantages of the device of douching presented in this invention are obvious. Unlike the conventional douche devices that usually have a douche nozzle connected with a squeezable bottle, this invention promotes more frequent vaginal douching as a preventive for unbalanced vaginal environments, particularly post-coital douching, since the normal household water and a showerhead having douche mode can be so handy for use on demand and eliminate the need for advanced planning and purchases for douching solutions. More importantly, this invention provides an adequate and efficient douching through a thorough and even vaginal rinse by normal household water with controlled water pressure, volume, and temperature. Also unlike those douche devices using an attachment device between a showerhead and its water supply pipe or having an inconvenient douche means or a distinct projecting douche attaching structure on the showerhead face to allow douching to occur, this invention has its douche feature secretly built into a hand-held or wall-mounted showerhead to provide better secrecy of the douche apparatus and natural appearance of the showerhead face, and to offer women a great convenience and comfort on douching practice. In addition, the douche nozzle presented in this invention is a functional mate that has all the features required for this invention to function effectively and efficiently and provides many

advantages over any douche nozzles from prior art.

It is, therefore, one object of this invention to overcome the disadvantages of showerhead douche devices from prior art.

Another object of this invention is to bring a novel function, douche mode, into the current hand-held and wall-mounted showerheads art with reasonably low manufacture cost for addition of this new douche feature on behalf of women's personal hygiene.

A further object of this invention is to provide a new and improved showerhead douching device that is more visually appealing and comfortable to users than any douche devices in prior art.

A further related object of the invention is to provide a disposable vaginal douche nozzle that serves as a functional mate to the showerhead with said douche mode from this invention and bears many advantages over the prior art of douche nozzle.

Yet another object of this invention is to promote more frequent vaginal douching as a preventive for unbalanced vaginal environments.

Other objects and advantages of the invention will become apparent from the following detailed description of the invention taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG.1 is an exploded perspective view showing a secret engagement means around a spray nozzle nestled in the face plate of a hand-held showerhead for thread-fit attachment to a disposable vaginal douche nozzle.

FIG. 2 is an exploded perspective view showing a secret engagement means around a spray nozzle nestled in the face plate of a wall-mounted showerhead for thread-fit attachment to a flexible douche hose that connects the showerhead with its first end and a disposable vaginal douche nozzle with its second end.

FIG. 3 is an enlarged view of the first form of the coupling structure depicted in Fig 1, showing an engagement means wherein an annular recessed internally threaded cylindrical wall around a dam-shape spray nozzle in a showerhead face plate is cooperatively attachable to a douche nozzle or a douche hose with an externally threaded joint end.

FIG. 4 is an enlarged view of the second form of the coupling structure depicted in Fig 1.

FIG. 5 is an enlarged view of the third form of the coupling structure depicted in Fig 1.

FIG. 6 is a view of the longitudinal section crossing bilaterally symmetric grooves of the douche nozzle.

FIG. 7 is a view of the longitudinal section crossing bilaterally symmetric ridges of the douche nozzle.

FIG. 8 is a cross-sectional view of the joint end of the douche nozzle.

FIG. 9 is a cross-sectional view of the lower body of the douche nozzle.

FIG. 10 is a view of a cross section of the upper body of the douche nozzle that missed the apertures within the grooves and bumps on the ridges.

FIG. 11 is a view of a cross section of the upper body of the douche nozzle that crossed the apertures in the grooves and bumps on the ridges.

DETAILED DESCRIPTION OF THE INVENTION

According to this invention, a novel function, douche mode, is built into a hand-held showerhead 55 or a wall-mounted showerhead 56 as illustrated in FIGS.1 & 2. The face plate 20 of either a hand-held or a wall-mounted showerhead has an arrangement of a few individual spray outlet patterns 21-24. The individual spray outlet 23 consists of a dam-shape spray nozzle 27 with a rectangular discharge orifice 54 and an annular recessed cylindrical wall 25 as shown in the enlarged view of the spray outlet 23 in FIG. 3. The art of multiple spray outlets arrangement on a showerhead face plate along with a spray outlet 23 as illustrated in FIG. 3 or the like has been found in many prior art of the showerheads that have become popular on the market for decades.

In FIG. 3, in light of this invention, the first form of an engagement means around the dam-shape spray nozzle 27 or the like is to fabricate an internally threaded configuration 26 into an annular recessed cylindrical wall 25 and to have an annular clearance space 33 around the dam-shape spray nozzle 27 or the like on the face plate 20 of either a hand-held showerhead 55 or a wall-mounted showerhead 56 to allow a coupling feature 26 in place for threaded-fit connection with an externally threaded joint end 28 of a disposable vaginal douche nozzle 29 or an externally threaded first end 30 of a flexible douche hose 31 which is attachable to a douche nozzle joint end 28 by its second end 53. The douche nozzle 29 or douche hose 31 receives water from the spray nozzle 27 when the douche mode on a showerhead is selected and the douche nozzle 29 or hose 31 from this invention is attached. In another words, user accesses the douche mode by way of selecting the spray mode of the spray nozzle 27 where it has a coupling structure 26 attachable to a douche nozzle 29 or a douche hose 31. The spray pattern of the spray nozzle 27 is not affected when a douche nozzle 29 or a douche hose 31 is not attached to the showerhead face plate 20. The douche mode on a showerhead is thereby created by this invention.

In FIGS. 1 & 2, the faucet 44 as a water source for a showerhead has a built-in valve, operable via a knob or knobs, for selectively controlling the pressure, volume, and temperature of douching water supplied to a vaginal douche nozzle 29. The water flow from a douche nozzle 29 is easily set by users through operating the knob or knobs of the faucet 44 controlling the water supply of a showerhead.

Illustrated in FIG. 4, the second form of said engagement means is to fabricate said spray nozzle into an externally threaded barrel-shape spray nozzle 32 and to have an annular clearance space 33 around the spray nozzle 32 on the face plate 20 of either a hand-held showerhead 55 or a wall-mounted showerhead 56 to allow an attachable spray nozzle 32 in place for thread-fit connection with an internally threaded joint end 35 of a disposable vaginal douche nozzle 29 or an internally threaded first end 36 of a flexible douche hose 31 which is attachable to a douche nozzle joint end 28 by its second end 53. The douche nozzle 29 or douche hose 31 receives water from the barrel-shape spray nozzle 32 when the douche mode on a showerhead is selected and the douche nozzle 29 or hose 31 from this invention is attached. In another words, user accesses the douche mode by way of selecting the spray mode of the spray nozzle 32 where it has a coupling structure attachable to a douche nozzle 29 or a douche hose 31. The spray pattern of the spray nozzle 32 is not affected when the douche nozzle 29 or the douche hose 31 is not attached to the showerhead face plate 20.

Illustrated in FIG. 5, the third form of said engagement means is to fabricate a retaining sleeve 39 that defines a recess in the bore of the annular recessed cylindrical wall 25 to captivate a floating O-ring 38; a douche nozzle 29 or a flexible douche hose 31 with an annular external groove 40 formed around a joint end 41 that can be secured with a snap-fit in the annular recessed cylindrical wall 25 by said floating O-ring 38; an annular clearance space 33 between the dam-shape spray nozzle 27 or the like and the annular recessed cylindrical wall 25 with a captivated floating O-ring 38 is to allow a douche nozzle 29 or a douche hose 31 with an annular external groove 40 formed around a joint end 41

cooperatively attachable to the floating O-ring 38; the douche nozzle 29 or douche hose 31 receives water from the dam-shape spray nozzle 27 or the like when the douche mode is selected and the douche nozzle 29 or hose 31 is snap-in attached, and the spray pattern of said spray nozzle 27 is not affected when the douche nozzle 29 or the douche hose 31 is not attached to the showerhead face plate 20.

The douching water enters and exits vaginal canal easily by using our specially designed douche nozzle 29. Illustrated in the FIGS. 6 & 7, the douche nozzle 29 comprises a joint end 28, a hollow tubular lower body 46, a fixed 52 or flexible 52' obtuse angle, and a hollow tubular upper body 45. The douche nozzle 29 is hollow thereby forming a fluid-flow passageway 47. There are four recessed spaced-apart grooves 48 and accordingly four longitudinal ridges 49 with four spaced-apart hemispherical bumps 50 along longitudinal axis of each ridge 49 on the exterior surface of the douche nozzle upper body 45 (FIGS. 6, 7, 10 & 11). The grooves 48 and bumps 50 on the ridges 49 together prevent the vaginal canal from "sealing" apertures 51 nestled within the grooves 48 of a douche nozzle 29 so as to help maintain an efficient drainage of douching fluid out of vaginal canal. Also these bumps 50 may help clean out vaginal foul secretion, such as leukorrhea, adhered to the vaginal wall when user slightly moves the douche nozzle 29 up and down in the vagina.

The joint end of the douche nozzle 29 has at least three forms of the coupling structure, externally threaded end 28, internally threaded end 35, or annular externally grooved end 41 as described earlier. The joint end 28 (used as an example herein, same scenario with joint end 35 or 41) of a douche nozzle 29 has the largest diameter (FIG. 8) of the entire fluid-flow passageway 47. The diameter tapers quickly to the same regular size (FIG. 9) as the rest of water passageway 47 is in the douche nozzle body. A plurality of apertures 51 (FIGS. 6 & 11) are provided through the entire length of each groove 48 and communicate with the fluid passageway 47 in the douche nozzle upper body 45. There is a plurality of apertures 51 on the douche nozzle upper body 45 to allow water to

exit the douche nozzle 29 at a relatively gentle pressure so as to avoid the possibility of excess water force to be introduced into the vaginal canal. The apertures 51 are located within the recessed grooves 48 in order to prevent the apertures 51 from becoming "sealed" by the contracted vaginal canal where it has a tendency to clamp down on a vaginal douche nozzle inserted therein. The apertures 51 are constructed in diagonally-downward cone-shape having its reduced end towards the hollow fluid passageway 47 and its enlarged end open to the exterior surface of the douche nozzle upper body 45. This configuration of apertures can help reduce the pressure of water flow and control the water to exit the douche nozzle upper body 45 in a diagonally-downward direction such that the douching water is directed through the grooves 48 and towards the vaginal opening. The douche nozzle lower body 46 has a smooth exterior surface and basically serves as a connecting tunnel between the joint end 28 and the douche nozzle upper body 45.

In FIGS. 3 & 4, the douche nozzle 29 has a fixed 52 or flexible 52' obtuse angle between the upper body 45 and lower body 46 in order to avoid both uncomfortable posture from holding the showerhead handle to adjust the insertion angle of a straight douche nozzle into the vagina and douching water after use falling from the vaginal canal on the face plate of a showerhead. The flexible angle 52' has a spiral and bendable structure that can be made of any suitable material, such as plastic or the like.

In FIG. 2, the flexible douche hose 31 has a first end 30, a flexible hose 31, and a second end 53. Both first and second attaching ends can be constructed into three different forms of coupling structure, externally threaded, internally threaded or annular external groove as described earlier as long as it has cooperatively fitting ends to work as a functional mate to the wall-mounted showerhead 56.

While this invention has been described in connection with what is considered the most practical and preferred embodiment, it is understood that this invention